were extremely scanty, and with the rest of the base its connections were essentially those with the hypothalamus. On anatomical grounds alone it would be very difficult to explain any connection with the corpora striata and the "seat of consciousness," not to speak of the question whether the "seat of consciousness" could be a safe problem today.

Dr. Smith Ely Jelliffe said that in advancing a materialistic interpretation he felt like the metaphorical individual who rashly rushes in when others, who had preceded him, had tread so lightly. Could not consciousness be regarded solely as the sum of the sensory impulses received, and that it was, regarded from the viewpoint of its content, so far full or complete as the incoming sensory components were sufficiently tense and functionally operative. From this point of view any cutting off of sensory impulses cut out of full consciousness certain elements which, while such might not interfere with its practical integrity, yet made a theoretical subtraction. In alcoholic anesthesia one could see the process of the gradual lopping off of sensory components until the reduction had reached, little by little, such a grade as to result in what is usually termed unconsciousness. In this sense then it was impossible to consider the basal ganglia as the sole seat of consciousness, inasmuch as they contained neurone endings for a part only, and that very small, of the sensory system. Isolated abrogation of the function of the corporata striata was clinically uncorrelated as yet. Gas poisoning softening was a much more diffuse process than that suggested by Dr. Peterson. But the difficult feature of the whole problem still remained, *i. e.*, which element or elements in the sensory arc stood in the foreground as of such primary importance as to perhaps permit of the use of the word "seat." One might lose one's consciousness of the position of the limbs from a lesion, either at Obersteiner's ring, in the cord, in the sensory stations of the midbrain or in the cortex. Where then could one say that limb-position consciousness had its seat? One might thus analyze one by one the components that are here assumed as constituents of a complex termed consciousness. The result would seem to follow that consciousness is a general correlate of sensory functioning and thus it has no necessary single seat, but is a function or sum of functions which has a diffuse anatomical substratum, from periphery to cortex.

THE SERO-DIAGNOSIS OF SYPHILIS IN ITS RELATION TO NERVOUS DISEASE

THE DEVELOPMENT AND CHARACTER OF THE WASSERMANN TEST

By C. F. Boldman, M.D.

After a brief review of Ehrlich's theory of antitoxin production and cytolysis, the speaker described the Wassermann test, which was now being extensively employed in the sero-diagnosis of syphilis. The Wassermann reaction, briefly outlined, was as follows:

Two tubes were prepared with the following contents:

Tube 1. Extract of the liver and spleen of a syphilitic fetus, representing the syphilitic organism (or antigen), plus serum to be tested.

Tube 2. Red blood cells of sheep or other animal, suspended in normal saline solution, plus serum of a rabbit which has been immunized to the particular red blood cells used.

Complement (a substance necessary to all immune reactions, which existed in the fresh serum of all animals) in the shape of fresh normal guinea-pig serum, was now added to Tube 1 and allowed to stand. At the end of a half hour the contents of Tube 1 were added to that of Tube 2. If the serum in Tube 1 had come from a syphilitic individual, its relation to the extract of antigen was a specific one, and complement would be absorbed thereby; so that, when the contents of Tubes 1 and 2 were joined, no hemolysis of the red blood cells in Tube 2 would take place. If the serum was *not* from a syphilitic, complement would not be absorbed, but would remain active to cause hemolysis in Tube 2.

Hemolysis was observed in the test tube as a tinging of the whole field with a transparent red color. The red corpuscles had been disintegrated and the hemoglobin liberated. In the absence of hemolysis the solution of red cells remained turbulent and opaque.

The test, of course, involved numerous controls and a careful standardizing of the hemolytic serum and of the syphilitic extract.

THE TECHNIQUE OF THE WASSERMANN REACTION: ITS PRACTICAL APPLICATION WITH REFERENCE TO DIAGNOSIS, PROGNOSIS AND TREATMENT OF NERVOUS DISEASE

By E. Castelli, M.D.

After describing in detail the technique of the Wassermann reaction, the author offered the following conclusions:

1. From the social standpoint, the serum diagnosis of syphilis represented one of the greatest achievements attained by medicine at the present time. The role played by syphilis in the life of mankind required no explanation. The highest coefficient to degeneracy and insanity was created by syphilis.

2. If we were now in a position to tell our patient that notwithstanding his previous syphilitic infection he could marry and create a healthful progeny, we would certainly have at our command a tremendous factor for benefiting a large proportion of our fellow beings.

3. If we could establish the fact that syphilis was curable, and did not hang like the sword of Damocles over a man's physical and mental future, again would medicine have triumphed.

4. From a legal standpoint, the fact that we might be able to aid either the prosecution or the defense with the knowledge that the criminal had a claim on the court's leniency by reason of a previous syphilitic infection, which had produced a derangement of his mental poise, it might become an important factor in the administration of justice.

5. The sero-diagnosis of syphilis would be a means of differential diagnosis during the pre-paralytic stage, when the general symptoms were very indefinite and generally masked by a well-defined neurasthenic syndrome. The differential diagnosis between general paralysis and neurasthenia during this period would represent the real prophylactic warning. The patient, during this pre-paralytic stage, was already dangerous to himself, his family and to society at large, and our early recognition of his condition made possible the safe-guarding of the patient.